

871TM 3-Wire DC Extended Sensing**Stainless Steel Face/Threaded Stainless Steel Barrel**

871TM DC Cable Style
8 mm



871TM DC Micro
Quick-Disconnect Style
12 mm



871TM DC Micro
Quick-Disconnect Style
18 mm



871TM DC Micro
Quick-Disconnect Style
30 mm

Specifications

Load Current	≤200 mA
Capacitive Load	≤1 μF
Leakage Current	≤0.1 mA
Operating Voltage	10...30V DC
Voltage Drop	≤2.0V DC at 200 mA
Repeatability	≤5% at constant temperature
Hysteresis	10% typical
False Pulse Protection	Incorporated
Transient Noise Protection	Incorporated
Reverse Polarity Protection	Incorporated
Short Circuit Protection	Incorporated (trigger at 340 mA typical)
Overload Protection	Incorporated
Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure	IP67
Connections	Cable: 2 m (6.5 ft) length PUR Quick Disconnect: 4-pin micro style 3-pin pico style
LED	Yellow: Output energized/360° LED visibility; flashing LED indicates target located between 80...100% of rated sensing distance
Operating Temperature [C (F)]	-25...+70° (-13...+158°)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel (1 mm thick)	0.1
Brass	1.2
Aluminum	1.0
Copper	0.8

Features

- 3-wire operation
- 3-conductor, 4-pin connection
- 10...30V DC
- Short circuit, overload, false pulse, reverse polarity, and transient noise protection
- Normally open or normally closed output
- Equal sensing for both steel and aluminum
- cULus Listed and CE Marked for all applicable directives

IMPORTANT

Due to the extended sensing capabilities of these products, special mounting/installation considerations may be necessary, please refer to publication 871TM-UM001A-EN-P.

**Allen-Bradley**

Visit our website: www.ab.com/catalogs.
Preferred availability cat. nos. are printed in **bold**.

**2-25**

871TM 3-Wire DC Extended Sensing

Stainless Steel Face/Threaded Stainless Steel Barrel

Product Selection

Barrel Dia.	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Max Switching Frequency [Hz]	Cat. No.				
						PUR Cable Style	Micro QD Style	Pico QD Style		
8 mm	3 (0.12)	Y	N.O.	NPN	≤ 700	871TM-M3NN8-J2	871TM-M3NN8-D4	871TM-M3NN8-P3		
				PNP		871TM-M3NP8-J2	871TM-M3NP8-D4	871TM-M3NP8-P3		
	6 (0.23)	N		NPN		871TM-N6NN8-J2	871TM-N6NN8-D4	871TM-N6NN8-P3		
				PNP		871TM-N6NP8-J2	871TM-N6NP8-D4	871TM-N6NP8-P3		
	3 (0.12)	Y	N.C.	NPN		871TM-M3CN8-J2	871TM-M3CN8-D4	871TM-M3CN8-P3		
				PNP		871TM-M3CP8-J2	871TM-M3CP8-D4	871TM-M3CP8-P3		
	6 (0.23)	N		NPN		871TM-N6CN8-J2	871TM-N6CN8-D4	871TM-M6CN8-P3		
				PNP		871TM-N6CP8-J2	871TM-N6CP8-D4	871TM-N6CP8-P3		
				Recommended standard QD cordset (~2 = 2 m (6.5 ft) PUR						

Barrel Dia.	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Max Switching Frequency [Hz]	Cat. No.	
						PUR Cable Style	Micro QD Style
12 mm	6 (0.23)	Y	N.O.	NPN	400	871TM-M6NN12-A2	871TM-M6NN12-D4
				PNP		871TM-M6NP12-A2	871TM-M6NP12-D4
	10 (0.39)	N		NPN		871TM-N10NN12-A2	871TM-N10NN12-D4
				PNP		871TM-N10NP12-A2	871TM-N10NP12-D4
	6 (0.23)	Y	N.C.	NPN		871TM-M6CN12-A2	871TM-M6CN12-D4
				PNP		871TM-M6CP12-A2	871TM-M6CP12-D4
	10 (0.39)	N		NPN		871TM-N10CN12-A2	871TM-N10CN12-D4
				PNP		871TM-N10CP12-A2	871TM-N10CP12-D4
18 mm	10 (0.39)	Y	N.O.	NPN	200	871TM-M10NN18-A2	871TM-M10NN18-D4
				PNP		871TM-M10NP18-A2	871TM-M10NP18-D4
	20 (0.79)	N		NPN		871TM-N20NN18-A2	871TM-N20NN18-D4
				PNP		871TM-N20NP18-A2	871TM-N20NP18-D4
	10 (0.39)	Y	N.C.	NPN		871TM-M10CN18-A2	871TM-M10CN18-D4
				PNP		871TM-M10CP18-A2	871TM-M10CP18-D4
	20 (0.79)	N		NPN		871TM-N20CN18-A2	871TM-N20CN18-D4
				PNP		871TM-N20CP18-A2	871TM-N20CP18-D4
30 mm	20 (0.79)	Y	N.O.	NPN	80	871TM-M20NN30-A2	871TM-M20NN30-D4
				PNP		871TM-M20NP30-A2	871TM-M20NP30-D4
	40 (1.57)	N		NPN		871TM-N40NN30-A2	871TM-N40NN30-D4
				PNP		871TM-N40NP30-A2	871TM-N40NP30-D4
	20 (0.79)	Y	N.C.	NPN		871TM-M20CN30-A2	871TM-M20CN30-D4
				PNP		871TM-M20CP30-A2	871TM-M20CP30-D4
	40 (1.57)	N		NPN		871TM-N40CN30-A2	871TM-N40CN30-D4
				PNP		871TM-N40CP30-A2	871TM-N40CP30-D4
Recommended Standard QD Cordset (-2 = 2 m (6.5 ft))							889D-F4AC-2

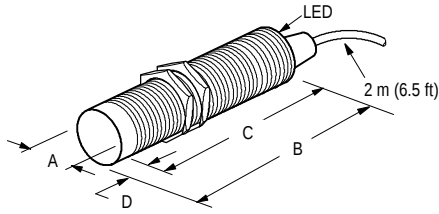
QD Cordsets and Accessories

Description	Page Number
Other Cordsets Available	8-2
Terminal Chambers	8-2
Mounting Brackets	2-210...2-214
End Caps	2-219, 2-220
Mounting Nuts	2-221...2-222

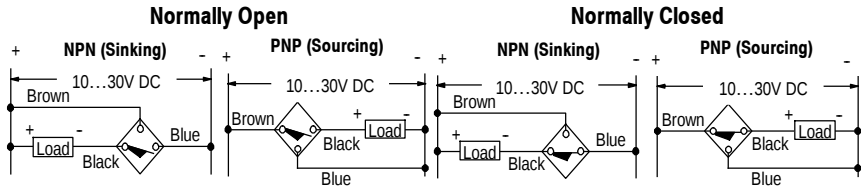
Inductive Proximity Sensors
871TM 3-Wire DC Extended Sensing
 Stainless Steel Face/Threaded Stainless Steel Barrel

Approximate Dimensions [mm (in.)]

Cable Style

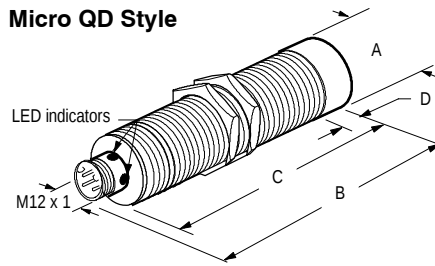


Wiring Diagrams



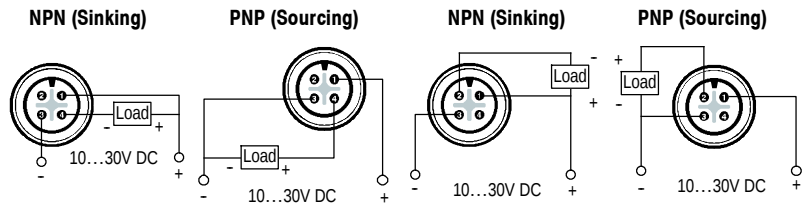
Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M8 X 1	Y	8.0 (0.31)	45 (1.76)	45 (1.76)	—
	N			41 (1.61)	4 (0.16)
M12 X 1	Y	12.0 (0.47)	50 (1.96)	50 (1.96)	—
	N			45 (1.77)	5 (0.19)
M18 X 1	Y	18.0 (0.71)		50 (1.96)	—
	N			43 (1.69)	7 (0.27)
M30 X 1.5	Y	30.0 (1.18)		50 (1.96)	—
	N			40 (1.57)	10 (0.39)

Micro QD Style



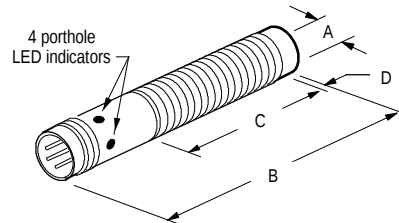
Normally Open

Normally Closed

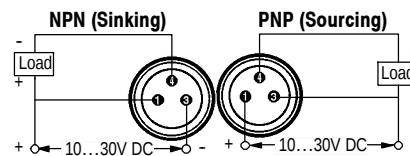


Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M8 X 1	Y	8.0 (0.31)	66 (2.59)	46 (1.81)	—
	N			42 (1.65)	4 (0.16)
M12 X 1	Y	12.0 (0.47)	60 (2.36)	41 (1.61)	—
	N			36 (1.42)	5 (0.20)
M18 X 1	Y	18.0 (0.71)	63.5 (2.5)	42.5 (1.67)	—
	N			35.5 (1.40)	7 (0.28)
M30 X 1.5	Y	30.0 (1.18)	63.5 (2.5)	42.5 (1.67)	—
	N			32.5 (1.28)	10 (0.39)

Pico QD Style



Normally Open or Normally Closed



Thread Size	Smooth Diameter	Shielded	[mm (in.)]			
			A	B (max)	C (min)	D (max)
M8 X 1	—	Y	8.0 (0.31)	60 (2.35)	45.5 (1.79)	—
		N			41.5 (1.63)	4.0 (0.16)